



Team Product Document

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Prepared By/Date I. B. Bassat		Dept. 117	Mail/Addr T038	R. Amar S. Reeder P. Rutherford B. Sujata J. Kucinskas	
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Distribution			Abstract		
*	Name	Mail Addr.	This procedure describes the process and provides instructions for qualification, packaging, loading, and shipment of LLW and MLLW of radioactive waste to the Envirocare site.		
*	R. Amar	T038			
*	R. Marshall	T038			
*	J. Kucinskas	T487	Shipment of radioactive waste to DOE-Nevada, DOE-Hanford, and Envirocare is addressed in EID-04482.		
*	S. Reeder	T038			
*	D. Trippeda	T038			
*	B. D. Sujata	T038	"This document supersedes document RMHF-SP-00005 , Revision		
*	J. G. Barns	T038	<u>New</u> "		
*	P. Wait	T054			
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CONTENTS

	<u>Page</u>
CONTENTS.....	2
1.0 OBJECTIVE	3
2.0 SCOPE	3
3.0 REFERENCE DOCUMENTS.....	3
4.0 PRELIMINARY EVALUATION OF WASTE.....	3
5.0 WASTE CHARACTERIZATION	3
6.0 WASTE PROFILING	4
7.0 PRE-SHIPMENT SAMPLES.....	4
8.0 WASTE QUALIFICATION SEQUENCE.....	5
9.0 PACKAGING AND SHIPMENT.....	6
10.0 QUALITY ASSURANCE (QA).....	9
11.0 APPLICABLE FORMS	10
APPENDIX A - APPLICABLE FORMS	11

1.0 OBJECTIVE

The objective of this document is to detail the process for qualification of radioactive low level waste (LLW) and mixed LLW (MLLW) for disposal at Envirocare of Utah, and to provide the instructions for documents preparation, packaging and shipment of the waste.

2.0 SCOPE

The scope of this document is limited to disposal of radioactive LLW and MLLW (including Pre-Shipment samples) generated at the Boeing DOE-Site restoration at the SSFL (ETEC Closure) at the Envirocare of Utah Inc. site. Shipment of radioactive LLW to DOE-Nevada, and DOE-Hanford sites is addressed in **EID-04482**. Shipment of radioactive materials including mixed waste to other off-site locations is addressed in **EID-04493**.

3.0 REFERENCE DOCUMENTS

1. Envirocare Waste Acceptance Criteria
2. EID-04493, "Procedure for Packaging and Shipping of Radioactive Materials"
3. EID-04482, "Packaging and Shipment of Radioactive Waste"

4.0 PRELIMINARY EVALUATION OF WASTE

Waste that could be considered for disposal and/or treatment at Envirocare may include soil, debris, metals and other waste generated in DOE-Site restoration activities. Preliminary evaluation of the waste planned for generation, or the waste already generated must be performed to determine the potential acceptability of the waste to Envirocare.

The Envirocare Waste acceptance guidelines, requirements, and forms are provided in Reference 1, **Envirocare Waste Acceptance Criteria (WAC)**, which is available on www.envirocareutah.com/. After the evaluation, the Project Manager shall establish contact with Envirocare and DOE-OAK to discuss the feasibility of shipping the waste, cost, contract, regulatory requirements, additional requirements and constraints. At the conclusion of these discussions, the Project Manager shall determine if the waste should be sent to Envirocare and accordingly direct the waste characterization, profiling, and packaging activities. The waste stream qualification flowchart from Envirocare WAC is included in Appendix A.

5.0 WASTE CHARACTERIZATION

Envirocare requires that a profile be completed for each waste stream planned for shipment. Each profile must be submitted to Envirocare for evaluation and must be supported by process knowledge, and analysis of the sampled waste performed by a Utah certified laboratory. A Sampling and Analysis Plan (SAP) must be prepared in order to facilitate the waste profiling. The SAP must address Envirocare waste characterization requirements so

that *Envirocare Radioactive Waste Profile Record (EC-0230)* could be prepared. See Reference 1, **Envirocare WAC**, for details.

Follow the SAP procedure to obtain, handle, package and ship the required samples to a Utah certified laboratory that is on the Boeing Approved Suppliers List, and is under contract to Boeing.

When analysis results are received, the Project Manager shall review the data with Environmental, Health Physics, and Quality Assurance to determine that radiological and hazardous constituents are within Envirocare acceptance/license limits.

6.0 WASTE PROFILING

Complete the *Envirocare Radioactive Waste Profile Record (EC-0230)*, including *Attachment B.6, Physical Properties, Attachment C.1, Radiological Evaluation Continuation*, and the *SNM Exemption Certification (EC-0230-SNM)*. Submit along with the supporting laboratory results and other required data to Envirocare Customer Service for initial review.

Envirocare customer service will review the profile package documents ensuring all required information has been provided, and then conduct a technical review. This will determine if the waste stream is within the requirements of Envirocare licenses and permits and will identify the special requirements for treatment and/or disposal of the waste. At this point the profile package will be submitted to Envirocare compliance staff for approval.

Once the profile package is approved, the Envirocare Technical Services Representative will issue a *Pre-Shipment Sample Profile Record and Authorization to Ship Samples to Envirocare*. For waste requiring treatment, a *Treatability Study Sample Certification* will also be issued.

7.0 PRE-SHIPMENT SAMPLES

A minimum of five (5) two pound, (1 liter) samples representing all the waste types present in the profiled waste stream are required for LLW and MLLW. An additional waste treatment sample is required for mixed waste sent to Envirocare for treatment. The mixed waste treatment sample should be a minimum of 20 liters (5 gallons) or 50 lb, representing the “worst case” for treatment. Each sample should be packed into a sealed glass container securely packaged into larger shipping container to prevent the glass from breaking during normal transportation. Each container should be labeled with the waste stream number, date, and sample identification number and should be sealed with a tamper indicating seal. The preparation of the samples for shipment, the required Boeing documentation, and the shipment process shall comply with Reference 2 (**EID-04493**).

The completed Pre-Shipment Sample Profile Record and Authorization to Ship Samples to Envirocare, or the Treatability Study Sample Certification must be attached to the outside

of the shipping container (accessible without opening the package). A Chain-of-Custody form shall accompany the shipment.

The Pre-Shipment samples should be sent to:

Envirocare of Utah, Inc.
South Clive Facility
US I-80, Exit 49
Tooley County
Clive, Utah 84029
(For Federal Express only, use Zip Code 84083)

Normally the pre-shipment sample testing will be performed within two weeks of their receipt while treatability studies require 45 to 90 days to complete. The results must be received at Envirocare before a *Notice of Transport* could be issued.

8.0 WASTE QUALIFICATION SEQUENCE

- 8.1 Project Manager- Appoint a person in charge (PIC):
PIC Name _____
- 8.2 PIC - Performs preliminary evaluation of waste.
- 8.3 Project Manager - Contact Envirocare Customer Service and DOE-OAK, and determine if waste could be sent to Envirocare: ____Yes ____No
- 8.4 Project Manager - Direct PIC to prepare a SAP and characterize the waste.
- 8.5 PIC - Prepare SAP and obtain approval.
- 8.6 PIC - Samples waste per SAP and send sample to the laboratory.
- 8.7 Project Manager - Review laboratory analysis results to determine if a waste profile should be submitted to Envirocare: ____Yes ____No
- 8.8 PIC - Complete *Envirocare Radioactive Waste Profile Record Form EC-0230* per Section 6.0, and submit with laboratory results to Envirocare.
- 8.9 Wait for the Waste Profile Package to be “pre-approved” by Envirocare, and for the waste stream No _____ to be assigned.
- 8.10 Project Manager - Obtain exemption from DOE order 435.1 allowing shipment to Envirocare from DOE-OAK.

- 8.11 PIC - Prepare the Pre-Shipment samples and Treatment samples (if required), package and label and ship to Envirocare per Section 7.0.
- 8.12 Wait for Envirocare to develop a “fingerprint” of the waste stream from the samples, and to request draft copy of the shipping documents (for the first shipment only).
- 8.13 PIC - Package and ship waste per Section 9.0.

9.0 PACKAGING AND SHIPMENT

After receiving request for documents from Envirocare, proceed with preparation of the shipment as follows:

- 9.1 PIC- Select and identify containers for the planned shipment, verify that the waste has been packaged in accordance with Reference 2, and prepare the ***RMHF Shipment Work Sheet Summary***.
- 9.2 PIC- Prepare the Envirocare site ***Uniform Low Level Radioactive Waste Manifest (Forms 540 and 541)***, and the ***Isotopes Report***, verify that the radionuclides concentrations are within the limits of the approved waste profile.
- 9.3 PIC- Prepare the ***Uniform Hazardous Manifest (EPA 8700-22/DTSC 8022A)***, and the ***Land Disposal Restriction Notification (LDR)***.
- 9.4 PIC- Submit the ***Uniform Low Level Radioactive Waste***, the ***Isotopes Report***, the ***Uniform Hazardous manifest form***, and the ***LDR form*** to Envirocare for review and approval. After review of these documents Customer Service will issue the ***Notice to Transport***. (Waste shipments cannot be scheduled or shipped to Envirocare before the receipt of the ***Notice to Transport***).
- 9.5 PIC Prepare the ***Radioactive Material Shipping instructions, Form 710-S-1***, and obtain approval signatures.
- 9.6 PIC- Provide the SHEA Tech Support & Administration (TS&A) the ***710-S form***, the ***RMHF Worksheet***, copies of the ***Lot Followers***, and the ***Uniform Hazardous manifest form*** (if required) for preparation of shipping documentation, instructions, and transportation in accordance with ***CPSOP C-404 (45-L & R66-S forms)***.
- 9.7 PIC- After receiving the ***Notice to Transport***, coordinate the shipment schedule with Envirocare Scheduling Department, TS&A and QA to establish shipping/arrival dates.

- 9.8 PIC- Provide a minimum of 5 days written notice to Envirocare of the scheduled arrival of the shipment. Use ***the 5 Working-Day Advanced Shipment Notification Form EC-98096***.
- 9.9 PIC- Provide Envirocare with an eight-week forecast of upcoming shipments of the waste stream.
- 9.10 PIC- Prepare the ***Container Marking and Labeling Instructions Form***.
- 9.11 PIC- Prepare the containers for shipment (verify physical integrity, touch-up paint as needed, add wood skids if required) and mark/label per the Container Marking and Labeling instructions form.
- 9.12 PIC- On the date of shipment, stage the package(s), at the RMHF compound, (or other selected location), in loading order determined by the RMHF manager and SHEA TS&A representative, and await the arrival of the functional organizations representatives to perform their respective activities affecting the shipment as follows:
1. Radiation Safety shall perform and document the survey of the package (s), the in bound vehicle, the out bound vehicle, and all other required activities to facilitate the shipment as specified in **RS-00011**.
 2. [Required only for waste shipments containing hazardous components]
D/117 shall, complete and attach to the package(s), if required, the hazardous material labels, complete and sign *the California Uniform Hazardous Waste Manifest (EPA Form 8700-22)*, and provide the completed form to the SHEA TS&A representative for inclusion in the driver's package.
 3. D/117 shall inspect the packages, mark and label per SHEA TS&A direction, load on vehicle and verify that all the required documents have been complete.
 4. SHEA TS&A representative shall perform the required Shipping activities in accordance with CPSOP C-404. Verify that each package meets the DOT criteria for the material contained and has the correct DOT labeling and marking. Verify that tamper proof seals are properly attached to each package, if required. Verify each package is properly loaded and braced.

Note: For radioactive material "DOT Exempt"¹ which is also hazardous, this step shall be performed by D/117 representative.

¹ "DOT Exempt" shall be defined as material that does not meet the definition of radioactive material of 49 CFR 173.403.

5. QA Representative – Shall perform and document the inspection activities affecting the shipment per **QA-00002**
- 9.13 PIC- Following verification of the above, the loaded transport vehicle shall be closed and secured (flat bed trucks when used shall be trapped), and the following forms shall be completed (acceptance shall be documented by initials, signature, or stamp on indicated form):
1. Radiation Safety representative - Perform the final vehicle radiological survey per **RS-00011**. Verify that the radiation and non-fixed contamination limits are not exceeded. [Not required for “Limited Quantity” or “DOT Exempt”].
 - Vehicle Departure Survey Form (no form number)
 - Radiation Survey Report (Form 732-A)
 2. D/117 representative - Verify that the site forms are completed, signed, and included with the shipping document package. Initial the “Shipping Inspection” blocks of the 710 S-1 as verification that the package(s) are properly packaged, loaded and braced on the transport vehicle.
 - Envirocare Uniform Low Level Radioactive Waste Manifest (Forms 540 and 541).
 - Isotopes Report.
 - SNM Exemption Certification.
 - Uniform Hazardous Manifest (EPA 8700-22/DTSC 8022A)
 - Land Disposal Restriction Notification (LDR)
 - Radioactive Material shipping Instructions (form 710 S-1)
 3. SHEA TS&A - Complete the shipping papers and verify all DOT documentation is correct. Inspect the vehicle, and verify the vehicle has the proper placards (offer placards) in place [Not required for “Limited Quantity” or “DOT Exempt” shipments]. As required, attach serialized, tamper-proof seal(s) to the closed transport vehicle door(s) and record seal(s) serial numbers (S/N) on Bill of Lading. Sign the approval block on the 710 S-1 as verification that all applicable DOT requirements are met.
 - Bill of Lading (form R-66-S)
 - Commercial Shipping Document (form 45-L-1)
 - Driver’s Instructions (no form number)
 - Radioactive Material Shipping Instructions (form 710 S-1)

4. QA Representative - Review the documentation against the QA checklist (**QA-00002**) and verify all operations and forms are properly completed. Initial the loading block of the 710 S-1 as verification that loading is properly completed.
 - Radioactive Shipment Container Verification Form (no form number)
 - Radioactive Material Shipping Instructions (form 710 S-1)
 - R/A Material Shipment QA
 5. QA Representative - Duplicate and distribute copies of the QA checklist and referenced forms to the following departments
 - Quality Assurance
 - D/117 (RMHF shipping file)
 - SHEA TS&A (original copies of shipping documents)
- 9.14 PIC- After vehicle departure, the RMHF management shall update the RTS, entering shipment data.
- 9.15 PIC-D/117 shall confirm the shipment arrival and unloading on the scheduled arrival date at the disposal site.

10.0 QUALITY ASSURANCE (QA)

Quality assurance is responsible for assuring that all waste packages, data, and shipments comply with the Envirocare site requirements. QA shall perform the following activities:

- 10.1 Review data packages of the containers selected for shipment per RMHF shipment work sheet (Lot followers, travelers, etc.) and verify completeness of all portions of the documents.
- 10.2 Review documents in generating facility files, in the Central file, in the Radiation Safety file and in the QA files.
- 10.3 Review each container tracking number, S/N, purchase order (P. O.), Certificate of Compliance (C of C), non-conformances (IDCRs), if any, and its compliance with the container criteria.
- 10.4 Verify the waste in each container has the required radiological survey information, analysis, and complete isotopic characterization in place.
- 10.5 Review the Envirocare site shipment forms.

- 10.6 Inspect containers physical integrity, and marking/labeling for compliance with the DOT requirements.
- 10.7 Complete the Shipment Checklist per **QA-0002**.

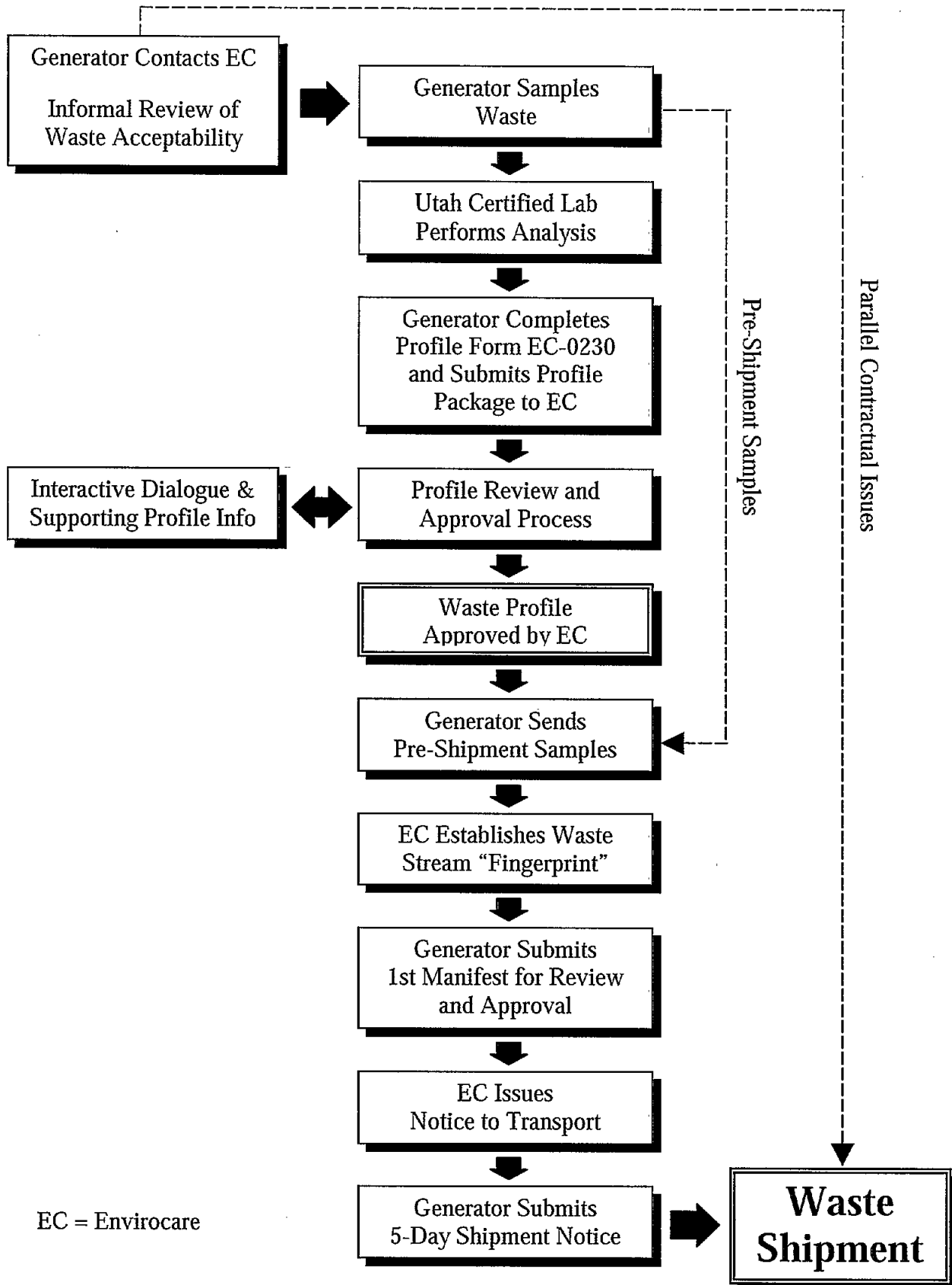
11.0 APPLICABLE FORMS

Examples of forms required for qualifying, approval, and shipment of LLW and MLLW, that are referred to in this document are included in Appendix A. The Envirocare forms can be obtained from the www.envirocareutah.com/. Other Boeing forms used in shipping, are identified in Applicable Document 3, and are not included in here.

APPENDIX A - APPLICABLE FORMS

	Page
1. Waste Stream Qualification Flowchart	12
2. EC-0230, Radioactive Waste Profile Record	13
2. EC-0230, Attachment B.6 – Physical Properties	17
3. EC-0230, Attachment C.1 – Radiological Evaluation, Continuation	18
4. EC-0230-SNM, SNM Exemption Certification”	19
7. Form 540-541-541A, Uniform Low-Level radioactive Waste manifest	21
8. EC-98096, 5 Working-Day Advanced Shipment Notification	24
9. EPA 8700-22, Uniform Hazardous Waste Manifest	25
10. LDR, “Land Disposal Restriction Notification”	26
11. Pre-Shipment Sample Profile Record and Authorization to Ship Samples	27
12. Treatability Study Sample Certification	28
13. Notice of Transport	29

Figure 1-1. Waste Stream Qualification Flowchart



RADIOACTIVE WASTE PROFILE RECORD

(EC-0230)

Revision 2

Generator Name: _____; Generator #/Waste Stream #: _____; Volume of Waste Material: _____

Contractor Name: _____; Waste Stream Name: _____; Delivery Date: _____

Check appropriate boxes: Licensed ☐ Y ☐ N ☐; NORM/NARM ☐; LLRW ☐; MW ☐; MW Treated ☐; MW Needing Treatment ☐PCB Radioactive ☐ Y ☐ N ☐; PCB Mixed Waste ☐ Y ☐ N ☐; DOE ☐Original Submission: ☐ Y ☐ N ☐; Revision # _____; Date of Revision _____

Name & Title of Person Completing Form: _____ Phone: _____

A. CUSTOMER INFORMATION:

GENERAL: Please read carefully and complete this form for one waste stream. This information will be used to determine how to properly manage the waste. Should there be any questions while completing this form, contact Envirocare at (801) 532-1330. **WASTES CANNOT BE ACCEPTED AT ENVIROCARE UNLESS THIS FORM IS COMPLETED.** If a category does not apply, please indicate.

1. GENERATOR INFORMATION

EPA ID # _____ EPA Hazardous Waste Number(s) (if applicable): _____

Mailing Address: _____

Phone: _____ Fax: _____

Location of Material (City, ST): _____

Generator Contact: _____ Title: _____

Mailing Address (if different from above): _____

Phone: _____ Fax: _____

B. WASTE PHYSICAL PROPERTIES (If you have questions about the remaining sections, please contact Envirocare at (801) 532-1330.)

- 1. PHYSICAL DATA** (Indicate percentage of material that will pass through the following grid sizes, e.g., 12" 100%, 4" 96%, 1" 74%, 1/4" 50%, 1/40" 30%, 1/200" 5%.)

GRADATION OF MATERIAL:

2. DESCRIPTION: Color _____ Odor _____	12" _____ %
Liquid _____ Solid _____ Sludge _____ Powder/Dust _____	4" _____ %
	1" _____ %
	1/4" _____ %
3. DENSITY RANGE: (Indicate dimensions) _____ - _____ S.G. <input type="checkbox"/> lb./ft ³ <input type="checkbox"/> lb./yd ³ <input type="checkbox"/>	1/40" _____ %
	1/200" _____ %

4. GENERAL CHARACTERISTICS (% OF EACH)

Soil _____ Building Debris _____ Rubble _____ Pipe Scale _____ Tailings _____ Process Waste _____ Concrete _____ Plastic/Resin _____

Other constituents and approximate % contribution of each: _____

5. MOISTURE CONTENT: (Use Std. Proctor Method ASTM D-698, for soil or soil-like materials.)* Optimum Moisture Content: _____ % @ Max Dry Density (lb/ft³): _____

Average Moisture Content: _____ %

*The waste material must not exceed 3 percentage points above optimum moisture upon arrival at Envirocare's disposal site.

Moisture Content Range: _____ % - _____ %

6. DESCRIPTION OF WASTE: (Please complete "Attachment B.6, Physical Properties." This attachment must describe the waste with respect to its physical composition and characteristics.)

C. RADIOLOGICAL EVALUATION.

1. **WASTE STREAM INFORMATION.** Please list the following information for each radioactive isotope associated with the waste. Envirocare's license assumes that short-lived decay products of specified isotopes are present in concentrations equal to the parent. Consequently, these short-lived isotopes are not required to be listed below and do not require manifesting. If more than 6 radionuclides are present, use "Attachment C.1, Radiological Evaluation, Continuation" in lieu of completing this table.

Isotopes	Concentration Range (pCi/g)	Weighted Avg. per Container (pCi/g)	Isotopes	Concentration Range (pCi/g)	Weighted Avg. per Container (pCi/g)
a. _____	_____ to _____	_____	d. _____	_____ to _____	_____
b. _____	_____ to _____	_____	e. _____	_____ to _____	_____
c. _____	_____ to _____	_____	f. _____	_____ to _____	_____

2. ☐ **Y** ☐ **N** Is the radioactivity contained in the waste material Low-Level Radioactive Waste as defined in the Low-Level Radioactive Waste Policy Amendments Act of 1985 or in DOE Order 5820.2A, Chapter III? If yes, check "LLRW" block on line 3 of page 1.
3. ☐ **Y** ☐ **N** **LICENSED MATERIAL:** Is the waste material listed or included on an active Nuclear Regulatory Commission or Agreement State license?
(If Yes) **TYPE OF LICENSE:** Source ☐; Special Nuclear Material ☐; By-Product ☐; NORM ☐; NARM ☐
LICENSING AGENCY: _____
4. ☐ **Y** ☐ **N** **SPECIAL NUCLEAR MATERIAL:** Does the waste contain uranium enriched in U-235 or any of the following radionuclides: U-233, Pu-236, Pu-238, Pu-239, Pu-240, Pu-241, Pu-242, Pu-243, or Pu-244? If YES, please complete, sign and attach the "SNM Exemption Certification" form (EC-0230-SNM). Supporting statements, analytical results, and documentation must be included with the submittal.

D. CHEMICAL AND HAZARDOUS CHARACTERISTICS**1. DESCRIPTION AND HISTORY OF WASTE**

Please attach a description of the waste to this profile. Include the following as applicable: The process by which the waste was generated. Available process knowledge of the waste. The basis of hazardous waste determinations. A list of the chemicals and materials used in or commingled with the waste; a list of any and all applicable EPA Hazardous Waste Numbers, current or former; and, a list of any and all applicable land-disposal prohibition or hazardous-waste exclusions, extensions, exemptions, effective dates, variances, or delistings. Attach the most recent or applicable analytical results involving the composition of the waste. Attach any product information or treatment standards. Attach any product information or Material Safety Data Sheets associated with the waste. If a category on this Waste Profile Record does not apply, describe why it does not. For any "Y" response, please provide a description in the form of an Attachment to Items D.1 and .D.2.

Please describe the history, and include the following:

- ☐ **Y** ☐ **N** Was this waste mixed, treated, neutralized, solidified, commingled, dried, or otherwise processed upon generation or at any time thereafter?
- ☐ **Y** ☐ **N** Has this waste been transported or otherwise removed from the location or site where it was originally generated?
- ☐ **Y** ☐ **N** Was this waste derived from (or is the waste a residue of) the treatment, storage, and/or disposal of hazardous waste defined by 40 CFR 261?
- ☐ **Y** ☐ **N** Has this material been treated at any time to meet any applicable treatment standard?

2. LIST ALL KNOWN AND POSSIBLE CHEMICAL COMPONENTS OR HAZARDOUS WASTE CHARACTERISTICS

	(Y)	(N)		(Y)	(N)		(Y)	(N)
a. Listed HW	<input type="checkbox"/>	<input type="checkbox"/>	b. "Derived-From" HW	<input type="checkbox"/>	<input type="checkbox"/>	c. Toxic	<input type="checkbox"/>	<input type="checkbox"/>
d. Cyanides	<input type="checkbox"/>	<input type="checkbox"/>	e. Sulfides	<input type="checkbox"/>	<input type="checkbox"/>	f. Dioxins	<input type="checkbox"/>	<input type="checkbox"/>
g. Pesticides	<input type="checkbox"/>	<input type="checkbox"/>	h. Herbicides	<input type="checkbox"/>	<input type="checkbox"/>	i. PCBs**	<input type="checkbox"/>	<input type="checkbox"/>
j. Explosives	<input type="checkbox"/>	<input type="checkbox"/>	k. Pyrophorics	<input type="checkbox"/>	<input type="checkbox"/>	l. Solvents	<input type="checkbox"/>	<input type="checkbox"/>
m. Organics	<input type="checkbox"/>	<input type="checkbox"/>	n. Phenolics	<input type="checkbox"/>	<input type="checkbox"/>	o. Infectious	<input type="checkbox"/>	<input type="checkbox"/>
p. Ignitable	<input type="checkbox"/>	<input type="checkbox"/>	q. Corrosive	<input type="checkbox"/>	<input type="checkbox"/>	r. Reactive	<input type="checkbox"/>	<input type="checkbox"/>
s. Antimony	<input type="checkbox"/>	<input type="checkbox"/>	t. Beryllium	<input type="checkbox"/>	<input type="checkbox"/>	u. Copper	<input type="checkbox"/>	<input type="checkbox"/>
v. Nickel	<input type="checkbox"/>	<input type="checkbox"/>	w. Thallium	<input type="checkbox"/>	<input type="checkbox"/>	x. Vanadium	<input type="checkbox"/>	<input type="checkbox"/>
y. Alcohols	<input type="checkbox"/>	<input type="checkbox"/>	z. Arsenic	<input type="checkbox"/>	<input type="checkbox"/>	aa. Barium	<input type="checkbox"/>	<input type="checkbox"/>
bb. Cadmium	<input type="checkbox"/>	<input type="checkbox"/>	cc. Chromium	<input type="checkbox"/>	<input type="checkbox"/>	dd. Lead	<input type="checkbox"/>	<input type="checkbox"/>
ee. Mercury	<input type="checkbox"/>	<input type="checkbox"/>	ff. Selenium	<input type="checkbox"/>	<input type="checkbox"/>	gg. Silver	<input type="checkbox"/>	<input type="checkbox"/>
hh. Benzene	<input type="checkbox"/>	<input type="checkbox"/>	ii. Nitrate	<input type="checkbox"/>	<input type="checkbox"/>	jj. Nitrite	<input type="checkbox"/>	<input type="checkbox"/>
kk. Fluoride	<input type="checkbox"/>	<input type="checkbox"/>	ll. Oil	<input type="checkbox"/>	<input type="checkbox"/>	mm. Fuel	<input type="checkbox"/>	<input type="checkbox"/>
nn. Chelating Agents	<input type="checkbox"/>	<input type="checkbox"/>	oo. Biological	<input type="checkbox"/>	<input type="checkbox"/>	pp. Pathogenic	<input type="checkbox"/>	<input type="checkbox"/>
qq. Asbestos	<input type="checkbox"/>	<input type="checkbox"/>						

Other Known or Possible Materials or Chemicals: _____

** If the waste is regulated by TSCA, please complete, sign, and attach the applicable PCB/Radioactive or PCB/Mixed Waste certification form.

3. **ANALYTICAL RESULTS FOR TOXICITY CHARACTERISTIC.** (Please transcribe results on the blank spaces provided. Attach additional sheets if needed, indicate range or worst-case results).

Metals (check one): <input type="checkbox"/> Total (mg/kg) or <input type="checkbox"/> TCLP (mg/l)		Organics (check one): <input type="checkbox"/> Total (mg/kg) or <input type="checkbox"/> TCLP (mg/l)	
Arsenic _____	Lead _____	_____	_____
Barium _____	Mercury _____	_____	_____
Cadmium _____	Selenium _____	_____	_____
Chromium _____	Silver _____	_____	_____
	Zinc _____	_____	_____

4. **ANALYTICAL RESULTS FOR REQUIRED PARAMETERS:** (Please transcribe results on the blank spaces provided. Attach additional sheets if needed).

Soil pH _____	Paint Filter Liquids Test _____ (Pass/Fail)	Cyanide Released _____ (mg/kg)	Sulfide Released _____ (mg/kg)
---------------	---	--------------------------------	--------------------------------

5. **IGNITABILITY (40 CFR 261.21[a][2],[4].)**

Flash Point \geq _____ °F ☐ °C ☐ Is the waste a RCRA oxidizer? Y ☐ N ☐

6. **CHEMICAL COMPOSITION** (List all known chemical components and check the applicable concentration dimensions. Use attachments to complete, if necessary.)

Chemical Component	Concentration	Chemical Component	Concentration
_____	_____ % <input type="checkbox"/> mg/kg <input type="checkbox"/>	_____	_____ % <input type="checkbox"/> mg/kg <input type="checkbox"/>
_____	_____ % <input type="checkbox"/> mg/kg <input type="checkbox"/>	_____	_____ % <input type="checkbox"/> mg/kg <input type="checkbox"/>
_____	_____ % <input type="checkbox"/> mg/kg <input type="checkbox"/>	_____	_____ % <input type="checkbox"/> mg/kg <input type="checkbox"/>
_____	_____ % <input type="checkbox"/> mg/kg <input type="checkbox"/>	Halogenic Organic Compounds (HOC) (Sum of the list of HOCs.)	_____ % <input type="checkbox"/> mg/kg <input type="checkbox"/>

7. **TREATMENT STANDARDS. (FOR MIXED WASTE ONLY).** Describe the waste's applicable treatment standards. Include the EPA Hazardous Waste Numbers and information with respect to the waste's subcategory (e.g., low mercury subcategory), treatability group (e.g. non-wastewaters), treatment standards and concentrations or technology (e.g. 5.7 mg/l selenium extract or INCIN [incineration]), and any applicable exemptions, exclusions, variances, extension, allowances, etc. If additional space is needed, provide an Attachment D.7 to this profile record formatted as below.

EPA HW Number	Subcategory	Treatability Group	Treatability Standard(s) and Concentrations or Technology	Any Exemptions, Variances, Extensions or Exclusions (List 40 CFR reference)
_____	_____	_____	_____	Y <input type="checkbox"/> N <input type="checkbox"/> _____
_____	_____	_____	_____	Y <input type="checkbox"/> N <input type="checkbox"/> _____

- E. **REQUIRED CHEMICAL LABORATORY ANALYSIS.** Generator must submit results of analyses of the waste. Results are required from a qualified laboratory for the following analytical parameters unless nonapplicability of the analysis for the waste can be stated and justified in attached statements. Attach all analytical results and QA/QC documentation. **(CAUTION: PRIOR TO ARRANGING FOR LABORATORY ANALYSES, CHECK WITH ENVIROCORE AND LABORATORY REGARDING UTAH LABORATORY CERTIFICATIONS.**

FOR ALL WASTE TYPES: CHEMICAL ANALYSIS: Soil pH (9045), Paint Filter Liquids Test (9095); Reactivity (cyanide and sulfide).

1. **MINIMUM ADDITIONAL ANALYTICAL REQUIRED FOR:**

- Non-RCRA Waste (Non Mixed Waste, i.e. LLRW, NORM): TCLP including the 32 organics, 8 metals, and zinc (Zn).
- Mixed Waste: Results to show why the waste is hazardous, and the following analytical results:
 - TOX (Total Organic Halides SW-846 9020/9022) or volatile & semi-volatile organics (8240+8270, required if TOX >200 mg/kg)
 - Applicable concentration-based treatment standards
 - Total and Amenable Cyanide, SW-846 9010 or 9012, required if reactive cyanide >20 mg/kg

2. **REQUIRED RADIOLOGICAL ANALYSES:** Please obtain sufficient samples to adequately determine a range and weighted average of activity in the waste. Analyze all waste streams by gamma spectroscopy. Obtain sufficient samples to ensure that results represent the waste. If Uranium, Plutonium, Thorium, or other non-gamma emitting nuclides are present in the material, the waste must be analyzed using radiochemistry to determine the concentration of these additional contaminants in the material. Detailed radiochemistry may be required to fulfill requirements of Item C.4.

3. **PRE-SHIPMENT SAMPLES OF WASTE TO ENVIROCARE**

Once permission has been obtained from Envirocare, please send 5 representative samples of the waste to Envirocare. A completed EC-2000 form must be included with the sample containers. These samples will be used to establish the waste's incoming shipment acceptance parameter tolerances and may be analyzed for additional parameters. Send about two pounds (one liter) for each sample in an air-tight clean unbreakable glass container via United Parcel Post (UPS) or Federal Express to:

Envirocare of Utah, Inc., Attn: Sample Control, Tooele County, Interstate-80, Exit 49, Clive, Utah 84029
(For Federal Express use Zip Code 84083). Phone: (435) 884-0155

4. **LABORATORY CERTIFICATION INFORMATION.** Please indicate below which of the following categories applies to your laboratory data.

- a. **Note analytical data that is to represent mixed waste must be Utah certified or from the USEPA.** All radiological data used to support the data in item C.1. must be from a Utah-certified laboratory.

☐ **UTAH CERTIFIED.** The laboratory holds a current certification for the applicable chemical test methods from the Utah Department of Health insofar as such official certifications are given. For analytical work done by Utah-certified laboratories, please provide a copy of the laboratory's current certification letter for each parameter analyzed and each method used for analyses required by this form.

☐ **GENERATOR'S STATE CERTIFICATION.** The laboratory holds a current certification for the applicable chemical parameters from the generator's State insofar as such official certifications are given, or

☐ **GENERATOR'S STATE LABORATORY REQUIREMENTS.** The laboratory meets the requirements of the generator's State or cognizant agency for chemical laboratories.

If using a non-Utah certified laboratory, briefly describe the generator state's requirements for chemical analytical laboratories to defend the determination that the laboratory used meets those requirements, especially in terms of whether the requirements are parameter specific, method specific, or involve CLP or other QA data packages. Note: When process or project knowledge of this waste is applied, additional analytical results may not be necessary to complete Section B, D.2, D.5, or D.6 of this form.

- b. **For analytical work done by laboratories which are not Utah-Certified, please provide the following information:**

State or Other Agency Contact Person

Generator's State

Telephone Number

Lab Contact Person

Laboratory's State

Telephone Number

F. **CERTIFICATION**

GENERATOR'S CERTIFICATION OF REPRESENTATIVE SAMPLES, ANALYTICAL RESULTS FROM QUALIFIED LABORATORIES, USE OF APPROVED ANALYTICAL AND SAMPLING METHODS, AND ARRANGEMENTS FOR TREATMENT OR NON-PROHIBITED DISPOSAL. I certify that samples representative of the waste described in this profile were or shall be obtained using state- and EPA-approved sampling methods. I also certify that where necessary those representative samples were or shall be provided to Envirocare and to qualified laboratories for the analytical results reported herein. I further certify that the waste described in this record is not prohibited from land disposal in 40 CFR 268 (unless prior arrangements are made for treatment at Envirocare) and that all applicable treatment standards are clearly indicated on this form. I also certify that the information provided on this form is complete, true and correct and is accurately supported and documented by any laboratory testing as required by Envirocare of Utah, Inc. I certify that the results of any said testing have been submitted to Envirocare of Utah, Inc.

Generator's Signature: _____
(Sign for the above certification)

Title: _____

Date: _____

ATTACHMENT B.6
PHYSICAL PROPERTIES

Generator Name: _____ Generator # / Waste Stream #: _____
Revision #: _____ Revision Date: _____

ATTACHMENT C.1 **RADIOLOGICAL EVALUATION, CONTINUATION**

Generator Name: _____ Generator # / Waste Stream #: _____
 Revision #: _____ Revision Date: _____

Isotopes	Concentration Range (pCi/g)	Weighted Avg. per Container (pCi/g)	Isotopes	Concentration Range (pCi/g)	Weighted Avg. per Container (pCi/g)
a. _____	_____ to _____	_____	am. _____	_____ to _____	_____
b. _____	_____ to _____	_____	an. _____	_____ to _____	_____
c. _____	_____ to _____	_____	ao. _____	_____ to _____	_____
d. _____	_____ to _____	_____	ap. _____	_____ to _____	_____
e. _____	_____ to _____	_____	aq. _____	_____ to _____	_____
f. _____	_____ to _____	_____	ar. _____	_____ to _____	_____
g. _____	_____ to _____	_____	as. _____	_____ to _____	_____
h. _____	_____ to _____	_____	at. _____	_____ to _____	_____
i. _____	_____ to _____	_____	au. _____	_____ to _____	_____
j. _____	_____ to _____	_____	av. _____	_____ to _____	_____
k. _____	_____ to _____	_____	aw. _____	_____ to _____	_____
l. _____	_____ to _____	_____	ax. _____	_____ to _____	_____
m. _____	_____ to _____	_____	ay. _____	_____ to _____	_____
n. _____	_____ to _____	_____	az. _____	_____ to _____	_____
o. _____	_____ to _____	_____	ba. _____	_____ to _____	_____
p. _____	_____ to _____	_____	bb. _____	_____ to _____	_____
q. _____	_____ to _____	_____	aw. _____	_____ to _____	_____
r. _____	_____ to _____	_____	ax. _____	_____ to _____	_____
s. _____	_____ to _____	_____	ay. _____	_____ to _____	_____
t. _____	_____ to _____	_____	az. _____	_____ to _____	_____
u. _____	_____ to _____	_____	ba. _____	_____ to _____	_____
v. _____	_____ to _____	_____	bb. _____	_____ to _____	_____
w. _____	_____ to _____	_____	bc. _____	_____ to _____	_____
x. _____	_____ to _____	_____	bd. _____	_____ to _____	_____
z. _____	_____ to _____	_____	be. _____	_____ to _____	_____
aa. _____	_____ to _____	_____	bf. _____	_____ to _____	_____
ab. _____	_____ to _____	_____	bg. _____	_____ to _____	_____
ac. _____	_____ to _____	_____	bh. _____	_____ to _____	_____
ad. _____	_____ to _____	_____	bi. _____	_____ to _____	_____
ae. _____	_____ to _____	_____	bj. _____	_____ to _____	_____
af. _____	_____ to _____	_____	bk. _____	_____ to _____	_____
ag. _____	_____ to _____	_____	bl. _____	_____ to _____	_____
ah. _____	_____ to _____	_____	bm. _____	_____ to _____	_____
ai. _____	_____ to _____	_____	bn. _____	_____ to _____	_____
aj. _____	_____ to _____	_____	bo. _____	_____ to _____	_____
ak. _____	_____ to _____	_____	bp. _____	_____ to _____	_____
al. _____	_____ to _____	_____	bq. _____	_____ to _____	_____

SNM Exemption Certification

(EC-0230-SNM)

7/12/99

Revision 1

The SNM Exemption Certification form must be completed and signed by each generator certifying to the following conditions. Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230). **A completed and signed copy of this form must also accompany each waste manifest.**

Generator No. / Waste Stream No. _____ Manifest No. _____

1. Please check one of the following that applies to the waste stream:

✓	Uranium Enrichment Percent	Percent MgO by Weight	Percent Beryllium by Weight	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
<input type="checkbox"/>	< 10 %	≤ 20 %	≤ 1 %	≤ 1900	≤ 285
<input type="checkbox"/>	≥ 10 %	≤ 20 %	≤ 1 %	≤ 1190	≤ 179
<input type="checkbox"/>	Unlimited	Unlimited	Unlimited	≤ 160	≤ 24
<input type="checkbox"/>	Unlimited	Sum of both ≤ 49 % of waste by weight		≤ 680	≤ 102
<input type="checkbox"/>	Not Applicable - Enriched U-235 is not present in the waste.				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations.

2. Please certify to the following requirements by checking each box:

- ☐ a. Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1.
- ☐ b. The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 145 kilograms (320 lbs) do not exceed on average the specified limits. (Based on process knowledge or testing).
- ☐ c. Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e.g., a pallet of drums, a B-25 box). By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. (Based on process knowledge or testing).
- ☐ d. Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste. (Based on process knowledge, physical observations, or testing).
- ☐ e. Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233. If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule. Highly soluble forms of uranium include, but are not limited to: uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate. (Based on process knowledge or testing).

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

SNM Exemption Certification

(EC-0230-SNM)

7/12/99

Revision 1

3. Please indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page SNM Exemption Certification form needs to be included with each manifest).

- ☐ a. Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition.
- ☐ b. Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges.
- ☐ c. Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.
- ☐ d. Describe the methods to be used to determine the concentrations on the manifests. These methods could include direct measurement and the use of scaling factors. Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations.

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing. I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with Envirocare's Radioactive Material License and that any supporting documentation and analytical results have been submitted to Envirocare of Utah, Inc.

Authorized Signature

Printed Name

Title

Date

FORM 540 (10-96)

FORM 541A

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

Envirocare of Utah, Inc.

2. MANIFEST NUMBER

3. PAGE 2 OF 1 PAGE(S)

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

DISPOSAL CONTAINER DESCRIPTION			WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER				16. WASTE CLASSIFICATION				
5. CONTAINER IDENTIFICATION NUMBER / GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME (m ³)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL (mSv/hr)	10. SURFACE CONTAMINATION (MBq/100 cm ²)	11. WASTE DESCRIPTION (See Note 2 & Note 2A)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION	15. RADIOLOGICAL DESCRIPTION	16. WASTE CLASSIFICATION
									INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT		AS-Class A Stable AD-Class A Unstable B-Class B C-Class C
											AD-Class A Unstable B-Class B C-Class C

NOTE 1: Container Description Codes. For containers/waste requiring disposal in approved structural overpacks the numerical code must be followed by "OP".

1. Wooden Box or Crate
2. Metal Box
3. Plastic Drum or Pail
4. Metal Drum or Pail
5. Metal Tank or Liner
6. Concrete Tank or Liner
7. Polyethylene Tank or Liner
8. Fiberglass Tank or Liner
9. Demineralizer
10. Gas Cylinder
11. Bulk, Unpackaged Waste
12. Unpackaged Components
13. High Integrity Container
19. Other. Describe in item 6, or additional page.

NOTE 1A: Bulk Packaging Description Codes (Choose one code as may be applicable.)

- A. Gondola
- B. Intermodal
- C. End-dump
- D. Roll-off
- E. Searen

NOTE 2: Waste Descriptor Codes (Choose up to three which predominate by volume.)

20. Charcoal
21. Incinerator Ash
22. Soil
23. Gas
24. Oil
25. Aqueous Liquid
26. Filter Media
27. Mechanical Filter
28. EPA or State Hazardous
29. Demolition Rubble
30. Cation Ion-exchange Media
31. Anion Ion-exchange Media
32. Mixed Bed Ion-exchange Media
33. Contaminated Equipment
34. Organic Liquid (except oil)
35. Glassware or Labware
36. Sealed Source Device
37. Paint or Plating
38. Evaporator Bottoms/Sludges/Concentrates
39. Compressible Trash
40. Noncompressible Trash
41. Animal Carcass
42. Biological Material (except animal carcass)
43. Activated Material
59. Other. Describe in item 11, or additional page.

NOTE 2A: Specific Waste Descriptions (Choose all applicable codes.)

- G. Devaluated
 - H. Solid
 - I. Combustible
 - J. Non-combustible
 - K. Air Filtration Filters
 - L. Asbestos
84. Vinyl Ester Styrene
 90. Cement
 91. Concrete (encapsulation)
 92. Bitumen
 93. Vinyl Chloride
 94. Other. Describe in item 13, or additional page.
 100. None Required.

NOTE 3: Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume.) For media meeting disposal site structural stability requirements, the numerical code must be followed by "S" and the media vendor and brand name must also be identified in item 13. Code 100-NONE REQUIRED

90. Cement
91. Concrete
92. Bitumen
93. Vinyl Chloride
94. Vinyl Ester Styrene
99. Other. Describe in item 13, or additional page.
100. None Required.

FORM 541 (10-98)

5 WORKING-DAY ADVANCED SHIPMENT NOTIFICATION

(EC-98096)

Revision 0

Generator Name: _____ Date: _____

Gen #/Waste Stream #: _____ Waste Profile Rev.#: _____ Rev. Date: _____

Authorized: _____ Agent Phone #: _____

Carrier Company/Contact: _____ Phone #: _____

Type: NORM ☐ LLRW ☐ 11e.(2) ☐ Mixed Waste ☐ MW Requiring Treatment ☐

Does the shipment contain SNM?: Y ☐ N ☐

Does the shipment contain mobile isotopes?: Y ☐ N ☐

Does the transport vehicle contain multiple manifests?: Y ☐ N ☐ (If "Y", how many per vehicle? _____)

If the shipment contains drums or bags, are they palletized? Not Applicable ☐ Y ☐ N ☐

* A "5 Working-Day Notice" must be completed separately for each waste stream including the effective date and revision number of the most recently approved Waste Profile revision. This information is contained on the "Notice to Transport" that is sent to the generator upon approval of a Waste Profile or Waste Profile revision.

REQUESTED DATE OF DELIVERY: _____

NOTE: CONTAINERS WEIGHING OVER 15,000 LBS. MUST BE LISTED SEPARATELY. ALL SHIPMENTS MUST ARRIVE BEFORE 12 NOON ON THE GIVEN SCHEDULED DAY. SHIPMENT DELIVERY DATES ARE SUBJECT TO CHANGE AT THE REQUEST OF ENVIROCARE.

Customer Record #	Number and Type of Containers	Truck/Trailer Numbers or Railcar/Container Numbers (if available)	Special Handling, Treatment, Packaging, Etc. Note When Containers > 15,000 lbs.

Rail cars release to: _____

AUTHORIZED COMPANY AGENT/BROKER

Fax 5-Day Notice To: (435) 884-3549, Attention Scheduling Department – 5-Day Notice,
or email To: sstory@envirocareutah.com

Fax Manifest To: (435) 884-1721, Shipping & Receiving – Manifest
or email To: manifest@envirocareutah.com

**UNIFORM HAZARDOUS
WASTE MANIFEST**

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1

of

Information in the shaded areas
is not required by Federal law.

3. Generator's Name and Mailing Address

4. Generator's Phone ()

5. Transporter 1 Company Name

6. US EPA ID Number

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

10. US EPA ID Number

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)

12. Containers

No.

Type

13. Total

Quantity

14. Unit

Wt/Vol

a.

b.

c.

d.

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Signature

Month

Day

Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month

Day

Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month

Day

Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month

Day

Year

DO NOT WRITE BELOW THIS LINE.

Land Disposal Restriction Notification

Generator: _____

Profile # _____

EPA ID # _____

Manifest # _____

For Waste on Manifest Line #: _____

☐ 11a☐ 11b☐ 11c☐ 11d

This waste is subject to the Land Disposal Restrictions of 40 CFR 268: It is (check one):

- ☐ A Wastewater (40 CFR 268.2(a)) ☐ A Non-Wastewater (40 CFR 268.2(d)) ☐ Halogenated Organic Compounds (HOC) \geq 1000 ppm (40 CFR 268 Appendix M)
- ☐ Debris subject to Treatment Standards. (40 CFR 268.40) ☐ Debris subject to Alternative Treatment (40 CFR 268.45)
- ☐ PCB \geq 50 ppm

List in the spaces below the required EPA Waste Code(s), Subcategory(ies), Debris Contaminant(s)

requiring treatment, & applicable five (5) letter treatment code(s).

EPA Waste #, "Code"	Subcategory	Debris Contaminant	5 Letter Treatment Code

If applicable, check all underlying constituents (UHC) on the UHC List (located on reverse side or on attached sheet) which can reasonably be expected to be present in this waste at a concentration above the constituent-specific treatment standard.

Check the One Category Below Which Describes This Material and Then Sign in Space at the Bottom of This Form

Material NOT Subject to Land Disposal Restrictions BECAUSE:

- ☐ Material is a NON-RCRA Waste
- ☐ Restricted Waste Exempted from Prohibition on Type of Land Disposal Method for Waste Type. (40 CFR 268.7(a)(5))

Date Waste will be subject to prohibitions _____

- ☐ Restricted Waste Meets Treatment Standards without Treatment (40 CFR 268.7(a)(2)(i))
I certify under penalty of law that I personally have examined and am familiar with this waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.
- ☐ Restricted Waste Treated to Treatment Standards. (40 CFR 268.7(b)(5)(i))
I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the performance levels specified in 40 CFR part 268, subpart D, and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.
- ☐ Restricted Waste Treated to Technology Based Treatment Standard(s) (40 CFR 268.7(b)(5)(ii))
I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.42. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.
- ☐ Restricted Characteristic Waste Treated to Remove the Hazardous Characteristic Only (40 CFR 268.7(b)(10)(C)(i)(v))
I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.
- ☐ Restricted Waste Exceeds Treatment Standards or Prohibition Levels (40 CFR 268.7(a)(1))
The restricted waste identified above must be treated to the applicable treatment standards promulgated in 40 CFR 268.40 or treated to comply with applicable prohibitions set forth in Part 268.32 or RCRA Section 3004(d). Analytical attached where available.

Signature _____

Date _____

PRE-SHIPMENT SAMPLE PROFILE RECORD

(EC-2000)

(Rev. 10/93)

Generator Name: _____; Generator #/Waste Stream #: _____

Contractor Name: _____; Waste Stream Name: _____

Volume of Waste Material: _____; LARW, MW, NORM; Delivery Date: _____

Original Submission: Y: N: Revision # Date: _____

Name & Title of Person Completing Form: _____

This form is to be completed by the generator's chemical safety officer or equivalent and should accompany pre-shipment samples sent to Envirocare. Please read carefully and complete this form describing the samples sent for one waste stream. This information will be used to determine how to properly and safely manage, analyze and dispose of your samples. This form should **not** be enclosed in the sample containers or package but should accompany the samples, attached to the sample package, if possible. Should you have any questions while completing this form, contact Envirocare at (801) 532-1330. **PRE-SHIPMENT SAMPLES CANNOT BE ANALYZED FOR THE INCOMING-SHIPMENT FINGERPRINT PARAMETERS OR OTHER ANALYSES UNLESS THIS FORM IS COMPLETED.** Please mail this form with the samples to: Envirocare of Utah, Inc., Attn: Sample Control, Tooele county US I-80 Exit 49, Clive, Utah 84029.

1. CHEMICAL/SAFETY OFFICER INFORMATION

Chemical/Safety Officer _____

Title of Chemical/Safety Officer _____

Phone _____ Firm _____

2. Sample Return Address _____**3. SAMPLE COLLECTION**

Sample Collection Contact Person _____

Title of Contact Person _____

Phone _____ Firm _____

4. Waste Stream Name _____

EPA Hazardous Waste Number(s) _____

Y N Is this a sample of Mixed Waste?

5. Indicate (Y or N) the expected or possible analytical results, characteristics or components of any sample of this waste stream below:

___ High pH	___ Low pH	___ Volatile Organics	___ Concrete	___ Alkaline Materials
___ Oxidizing Agents	___ Reducing Agents	___ Dissolved Metals	___ Organic Halides	___ Shock Sensitive Materials
___ Cyanides	___ Sulfides	___ Air Reactive	___ Free Liquids	___ Pyrophoric Materials
___ Acids	___ Caustic Materials	___ Organic Compounds	___ Inorganic Compounds	___ Water Reactive Materials
___ PCBs	___ Explosives	___ Solvents	___ Corrosives	___ Infectious Materials
___ Flash Point <60 C	___ Corrosive Materials	___ Reactive Materials	___ Manganese	___ Copper
___ Mercury	___ Others	_____		

6. During analyses, our analysts will subject these samples to analytical environments including: heat, cold, stirring, shock impacts, caustics, acids (including nitric and glacial acetic), salt solutions (including potassium iodide, potassium nitrate, sodium thiosulfate, sodium sulfite), starch, iodine, and buffered pH solutions. Please list the associated hazards and safety precautions to be employed when analyzing any sample of this waste stream.

GENERATOR'S CERTIFICATION OF REPRESENTATIVE SAMPLES: I certify that samples representative of the waste described above are provided to Envirocare of Utah, Inc., for pre-shipment analyses.

GENERATOR'S AUTHORIZATION THAT SAMPLES MAY BE ANALYZED SAFELY: I further authorize that these samples may be safely analyzed using the precautions described in 6. above.

GENERATOR'S AUTHORIZATION AND CERTIFICATION TO RETURN SAMPLES AND PRIOR TO OR FOLLOWING ANALYSES: I hereby authorize that Envirocare of Utah, Inc., may return these samples to the address in 2. above prior to or following analysis and prior to disposal. I hereby certify that the generator and generator's applicable associates in this project understand that pre-shipment samples may be returned if wastes are not sent to Envirocare for disposal within 3 months of sample delivery.

Generator's Safety Officer's Signature _____ Title _____ Date _____
(Sign for the above certifications and authorizations.)



TREATABILITY STUDY SAMPLE CERTIFICATION

(EC-1700)

Rev.: 8/08/95

Generator Name: _____; Generator #/Waste Stream #: _____; Volume of Waste Material _____

Contractor Name: _____; Waste Stream Name: _____; Delivery Date: _____

Check appropriate boxes: Licensed ☐; Non-Licensed ☐; NORM ☐; LARW ☐; Mixed Waste ☐; FUSRAP ☐; 17e.(2) ☐ :: Needing Treatment ☐Original Submission: ☐ Y; ☐ N; Revision # _____; Date of Revision _____

Name & Title of Person Completing Form: _____

Facility notice to Originator to complete form and provide sample:

Signature (Facility Project Manager) _____

Signature (Facility Technical Staff) _____

Note: Treatability Study Sample MUST be a "worst case" sample for concentrations of applicable hazardous constituents.

1. TREATABILITY STUDY SAMPLE ORIGINATOR INFORMATION

EPA ID # _____

Name _____

Mailing Address _____

Telephone Number _____

Fax Number _____

Contact Person _____

2. TREATABILITY STUDY SAMPLE TESTING FACILITY INFORMATION

Name ENVIROCARE OF UTAH, INC.EPA ID # UT0982598898Address TOOELE COUNTY, INTERSTATE-80, EXIT 49CLIVE, UTAH 84029Telephone Number (801) 521-9619Fax Number (801) 521-9630Contact Person RICHARD BRIMLEY or JESSE GARCIA

3. TREATABILITY STUDY SAMPLE INFORMATION

Sample Quantity _____ lbs. kg.

4. DATE SHIPMENT SENT: _____

5. SAMPLE ACCEPTANCE CHECKLIST
(TO BE COMPLETED UPON
ARRIVAL AT FACILITY)☐ Review sample shipping documents☐ Confirm sample quantity☐ ACCEPT or REJECT/RETURN sample☐ If accepted, sign contract below.☐ Note date received in 6. below.☐ Log the treatability study sample into sample control.

Make copies of this form for files and to keep with sample(s).

6. DATE SHIPMENT RECEIVED: _____

7. SAMPLE DESCRIPTION: _____

8. APPLICABLE WASTE CODES: _____

ORIGINATOR'S STATEMENT OF CERTIFICATION FOR TREATABILITY STUDY SAMPLE: This treatability study sample is being provided to the above-named Treatability Study Sample Testing Facility ("Facility") from the above-named Treatability Study Sample Originator ("Originator") in accordance with other disposal agreements, applicable regulations, and permit provisions in order to perform analyses and/or a treatability study. The Originator warrants that the sample which is provided has been properly described above and is a sample which contains the most concentrated portion of the waste to be treated. The Originator will accept the return of any unused portions of this sample and any treatability-study residues from the Facility.

Originator's Signature _____

Title _____

NOTICE TO TRANSPORT

(EC-1800)

(Revised 11/4/98)

Envirocare has reviewed completed form EC-0230 (or EC-0200, EC-0175, EC-0650 and EC-0500 as appropriate). Based on our review of the information and certifications provided in those forms, Envirocare hereby issues notice that the following waste may be scheduled for transport and delivery to the Envirocare South Clive facility.

GENERATOR NAME / WASTE LOCATION_____
DATE_____
CONTRACTOR NAME_____
MATERIAL TYPE_____
GENERATOR RECORD # (GENERATOR NUMBER-WASTE STREAM NUMBER)_____
WASTE STREAM NAME_____
VOLUME OF MATERIAL_____
DELIVERY DATES

*This "Notice to Transport is valid during the time period specified.

WASTE TYPE: LICENSED _____; NON-LICENSED _____; NORM _____; LARW _____;

FUSRAP _____; 11e.(2) _____; MW _____; TREATED MW _____; MW NEEDING TRMT _____;

REQUIRED DISPOSAL LOCATION: NORM _____; LARW _____; MW _____; 11e.(2) _____;

Signature_____
Date

NOTICE: Transport and delivery of the material are to be done in accordance with a signed Disposal Agreement. Approved Radioactive Waste Shipment and Disposal Record forms (RSR's) must accompany the shipment(s). Upon arrival at the facility, the shipment will be made subject to incoming-shipment procedures and may be accepted or rejected by Envirocare for management at the facility. To generators of mixed waste designated above, notice is hereby provided that Envirocare possesses a RCRA permit for the treatment, storage and disposal of mixed (radioactive/hazardous) waste. Hazardous waste manifests and applicable LDR notices and certifications must also accompany mixed waste shipments. Envirocare will accept conforming waste shipped by the generator in accordance with our permits and waste disposal agreement.

****YOUR WASTE MUST NOT CONTAIN FREE LIQUIDS OR PYROPHORIC, SHOCK- SENSITIVE, AIR-REACTIVE, OR WATER-REACTIVE MATERIALS, AND MUST CONFORM WITH THE FOLLOWING INCOMING SHIPMENT PARAMETER TOLERANCES: * WAIVED: DEBRIS AND LEAD FOR MACRO**

*
Solid pH*
Ox/Red Test*
Cyanide Test*
"Sniffer"*
Sulfide test

The above ranges have been established for your waste using the pre-shipment samples you sent.

DO NOT SHIP MATERIAL WHICH EXCEEDS ANY OF THE ABOVE TOLERANCES.

Should a sample of an incoming shipment be analyzed to be outside of these tolerances, your shipment will be rejected and only accepted following additional testing of the material and statements from the generator.

December 13, 1999